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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/827,136 | 04/19/2004 | Kurt Francis | LO-0042 | 2302 |
| 35723 | 7590 | 06/29/2005 | EXAMINER | |
| LITTLE OPTICS, INC 9020 JUNCTION DRIVE ANNAPOLIS JUNCTION, MD 20701 | | | WONG, ERIC K | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2883 | |

DATE MAILED: 06/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|------------------------------|------------------------|---------------------|--|
| | 10/827,136 | FRANCIS ET AL. | |
| | Examiner | Art Unit | |
| | Eric Wong | 2883 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

application

1) Responsive to communication(s) filed on 19 April 2004.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-12 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-12 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 19 April 2004 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 0404.
4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
5) Notice of Informal Patent Application (PTO-152)
6) Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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1, 2, 5-12 are
2. Claim ~~1~~ rejected under 35 U.S.C. 102(e) as being anticipated by United States Patent

Application Publication 2003/0169422 to Mukai.

Mukai discloses in figures 1-2 and paragraph 12, a method of connecting an integrated optical waveguide circuit component with an optical fiber array comprising the steps of:

- Providing an integrated optical waveguide circuit component having N input and output waveguides including a subset of at least one U-waveguide structure (22);
- Providing an optical fiber array having an array of M optical fibers (20, 40), said fibers each having a coupling end for optical coupling to some set/subset of respective individual corresponding waveguide ports of said circuit component, some set/subset of said optical fibers terminating with an individual optical fiber terminal end;
- Positioning said array adjacent to said optical waveguide circuit, so that a plurality of photons emitted from optical fiber array ports are coupled into the respective individual corresponding u-waveguide coupling regions on said circuit component and back into the corresponding optical fiber array;

- Means for adjusting the relative position of said array (108, figure 2);
- Means for securing said position of array (paragraph 20).

As to claim 2, the array is held in an array holder (40).

As to claim 5, the array is secure to maximize sensed values (paragraph 20).

As to claim 6, M and N are at least two.

As to claim 7, circuit component is a planar substrate.

As to claims 8-12 an alignment system with a control unit is disclosed.

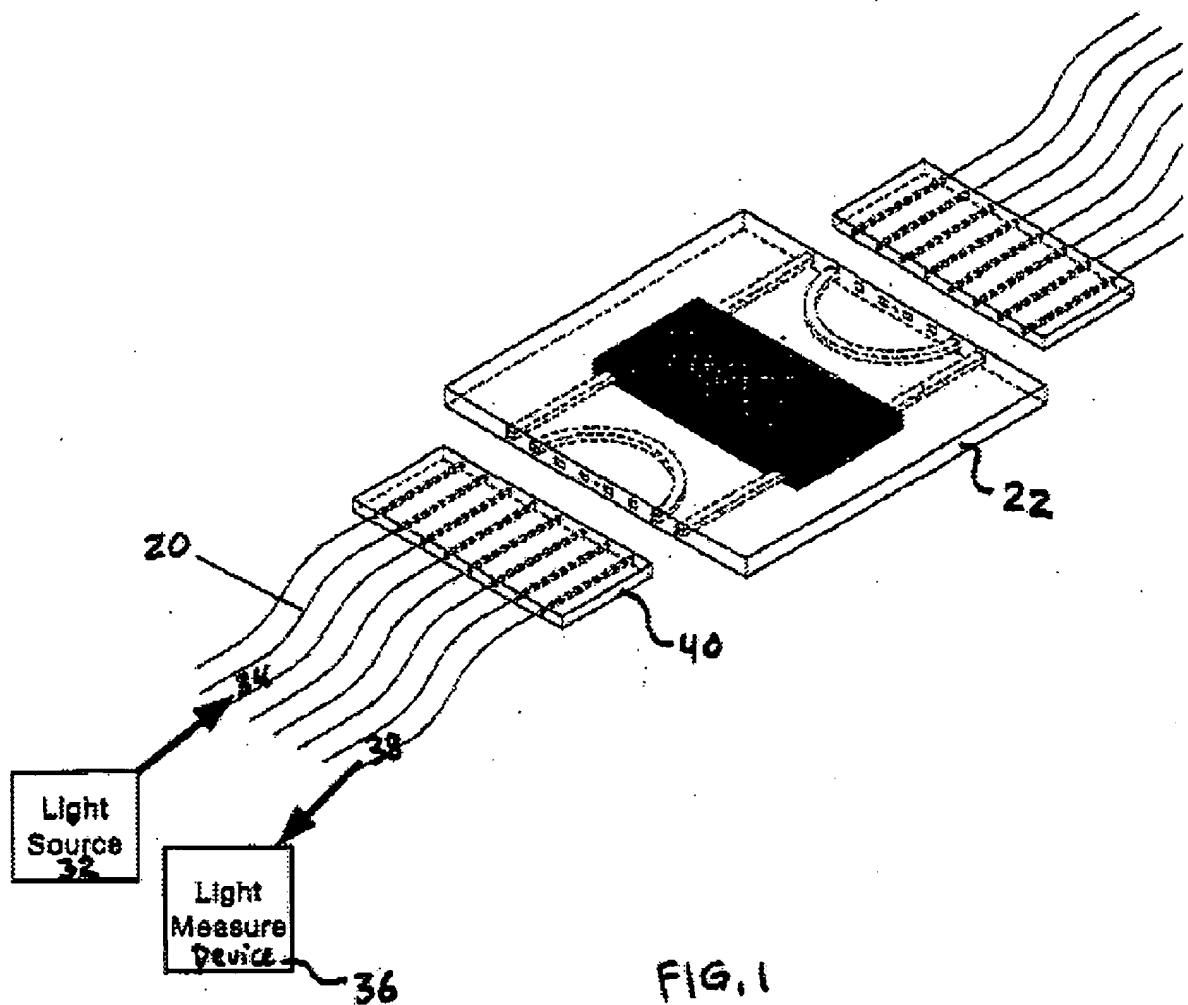


FIG. 1

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mukai as applied to claim 1 above.

Mukai discloses a method of aligning a fiber array with a planar waveguide circuit with optical fiber terminal ends, but fails to explicitly disclose the use of a fiber ribbon.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a ribbon as claimed, since the Examiner takes Official Notice of the equivalence of optical fiber ribbons and optical fiber arrays for their use in the optical communication art and the selection of these known equivalents to transmit optical signals would be within the level of ordinary skill in the art. It is respectfully noted that Applicant does not appear to disclose any criticality in the specific use of an optical fiber ribbon in Applicant's specification. It is further noted that Mukai does not specifically limit the arrangement of the optical fibers disclosed. By merely using a fiber ribbon instead of individual fibers is general optical engineering practice to save space, and to protect fibers from damage. Examiner's contention of this obvious choice in design can be overcome if Applicant establishes unexpected results by arranging the optical fibers in a ribbon structure as claimed.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 04/19/2004 has been considered by the examiner and made of record (note the attached copy of form PTO-1449).

Inventorship

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. United States Patent Number 5,970,192 to Osugi et al. for a method of aligning optical waveguide devices using a U-shaped waveguide.
- b. United States Patent Number 6,654,523 to Cole for a method of optical alignment using a U-shaped waveguide.
- c. United States Patent Application Publication 2004/0120651 to Huang for a method of aligning optical components.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Wong whose telephone number is 571-272-2363. The examiner can normally be reached on Monday through Friday, 830AM - 430PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



EW



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